

DROUGHT IN HUNGARY AND ITS IMPACTS ON SOYBEAN (*GLYCINE MAX L.*) PRODUCTION

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Abstract

The world's food security and economy are definitely dependent on agricultural production. Sustainable agriculture attempt to maintain high productivity while preserving soil quality, which refers to the capacity in preserving biological fertility and sustainability in plant production. By reason of the economic importance, soybean (*Glycine max* L.) is one of the most widely planted leguminous and oilseed crop worldwide owing to the structure and formation of oil and protein which takes part in human alimentation and animal nutrition. Drought stress is considered as an integral part of climate fluctuations and one of the leading risks to soybean production throughout the world and across all climates. It negatively affects growth and physiological processes as it affects nutrients uptake and assimilation in plants. Moreover, by increasingly affecting soybean yield worldwide, the soybean nitrogen fixation is sensible to drought throughout different growth and development stages. The aim of this study is to assess the relation of the effects of drought and soybean production in Hungary, especially in conventional soil tillage and minimum soil tillage systems. However, drought poses a risk to soybean yields quality and quantity throughout the year, the adequate risk assessment is not consummated yet due to the recent economic and financial difficulties with growing pressure on businesses and participants in the farming sector. By developing agriculture sustainability, food safety risk factors can decreased and green development as well as ecological and environmental welfare can increased in the long term.

Keywords: climate change, *Glycine max* L., soybean, drought, sustainable agriculture